EPA Comments on Draft Title V Operating Permit
for IPL - Lime Creek Combustion Turbines, Mason City, Iowa

Emission Limits and Operating Conditions:

1. The permit does not include all applicable requirements:
   (a) The initial permit included the following limits based on §§60.332 and 60.333:
   $SO_2 \leq 150$ ppm at 15% oxygen and on a dry basis; and
   NOx $\leq$ 75 ppm at 15% oxygen and on a dry basis.
   These limits are applicable requirements but were not included in the renewal permit.
   (b) The renewal permit lists 40 CFR 60.332(a)(1) as the source of the 249 tpy NOx limit, which appears to be incorrect.
   (c) The minimum 135,900 BTU/gallon fuel heat content requirement which was specified in the initial permit was not included in the renewal permit. This requirement should be added, or an explanation provided in the Statement of Basis explaining why it has been removed.

Compliance Assurance Monitoring (CAM) Plan

2. The document titled "Title V Application Review Notes" indicates that the Compliance Assurance Monitoring (CAM) requirements of 40 CFR Part 64 are satisfied by the applicable Acid Rain requirements. However, the draft Acid Rain permit specifies limits on sulfur dioxide emissions only (*i.e.*, not nitrous oxides, NOx). Per §64.(2)(a), CAM for NOx would appear to be applicable to both turbines, since these units *do* have an emission limit for NOx (249 tons per year, tpy); a control device is used to achieve compliance (*i.e.*, water injection); and the pre-controlled potential to emit is greater than 100% of the Title V major source emissions threshold (*i.e.*, 100 tpy NOx). It appears that this facility does not have a continuous emissions monitoring system (CEMS) for NOx. An example of a CAM plan for a similar facility (stationary gas turbine with water injection for NOx control) appears on EPA's web-site at:
   www.epa.gov/ttn/emc/cam/appsa-e99.pdf A copy of this CAM plan is enclosed.

Record Keeping and Monitoring

3. The monitoring, record keeping and reporting requirements in the draft permit are incomplete. It appears that some applicable requirements have been omitted from the draft renewal permit, possibly as a result of the reorganization of some of the original permit language. For example, the water-to-fuel monitoring is listed under the heading *Record keeping and Reporting* instead of under the heading *Monitoring*, which would be

more appropriate. Not all of the applicable NSPS requirements are listed under the heading *NSPS*; some are listed under other headings, and some are not included at all.

The Title V permit should provide a concise and consolidated guide for the source regarding what they must monitor, record and report, i.e., what they must do to comply with the applicable regulations. Whether incorporated into the permit, or attached to the permit, or simply used as a tool by the permit writer, a table of the applicable requirements and the associated mandatory minimum monitoring, record keeping, and reporting can provide valuable assistance. An example of such a summary table is attached. This also provides a way in which to identify any limits for which a decision has been made that no monitoring, record keeping or reporting is necessary, so that a justification for that decision can be included in the Statement of Basis.

(b) Since this is a permit renewal, rather than an initial permit, the performance testing required by 40 CFR §§60.8 and 60.335 have presumably already been performed for various loading conditions (*i.e.*, 30%, 50%, 75% and 100% of peak load). Therefore, the minimum water-to-fuel ratio has already been determined. The acceptable numerical ranges for this parameter should, therefore, be specified in the permit/CAM plan. Operation outside of the specified range would be an excursion and would require corrective action and reporting.

(c) The initial permit stated explicitly that a continuous monitoring system to monitor and record turbine fuel consumption was installed, and the permit required that this system be operated to within $\pm$ 5% accuracy. In the draft renewal permit, the emission unit specific Record keeping & Reporting requirements for the turbines, specify the following: "5) The water-to-fuel ratio shall be monitored according to 40 CFR §60.334(a)." This requirement is actually a monitoring requirement and should be moved to the Monitoring section. In addition, rather than merely referencing the citation, it would be more helpful to include the actual requirement: *"The owner or operator of any stationary gas turbine subject to the provisions of this subpart and* ***using water injection to control NOx*** *emissions* ***shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel*** *being fired in the turbine. This system shall be* ***accurate to within $\pm$ 5 percent*** *and shall be approved by the Administrator*."

(e) 40 CFR Part §60.334(b) requires that "*The owner or operator of any stationary gas turbine subject to the provisions of this subpart* ***shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine***. *The frequency of determination of these value shall be as follows: (1)* ***If the turbine is supplied its fuel from a bulk storage*** **tank, the values shall be determined on each occasion that fuel is transferred** to the storage tank from any other source." This requirement should be clearly stated in the permit.

(f) The following requirement from §60.334(c) should be added to the permit: *"(c) For*

the purpose of ***reports*** *required under §60.7, period of* ***excess emissions that shall be reported are defined as follows****: (1)* ***Nitrogen oxides****. Any* ***one-hour period during which the average water-to-fuel ratio****, as measured by the continuous monitoring system,* ***falls below the water-to-fuel ratio determined to demonstrate compliance*** *with §60.332 by the performance test required in §60.8 or* ***any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed*** *by the fuel-bound nitrogen allowance used during the performance test required in §60.8.* ***Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel*** *during the period of excess emissions, and the graphs or figures developed under §60.335(a)."*

(g) In general, the Title V permit should be a stand alone document that describes what the permittee must do to operate in compliance with all applicable requirements under the Clean Air Act. Merely referencing other regulations by including a citation does not contribute to this goal. The substance of the requirements applicable to the facility should be clearly described in the permit itself.

(h) The Acid Rain Permit includes a number of regulatory citations, but does not explain, even in the most general terms, what monitoring, record keeping, and reporting is required. In order for the public participation effort to be meaningful, as well as to enable our review, a summary of the requirements of the permit must be included.

In addition, these monitoring, record keeping and reporting requirements may satisfy what is necessary for Title V. Our records indicate that the facility has indicated in Title V compliance certifications that are relying on a continuous emissions monitoring system (CEMS) for SO2 to demonstrate compliance with the acid rain and Title V requirements. Use of the CEMS should be specified in the Title V permit.

Other

4. We believe that incorporating the information contained in the document titled "Title V Application Review Notes" into the permit Statement of Basis (Fact Sheet) would significantly improve the quality of the Statement of Basis. We therefore, recommend that the two documents be merged into a single document, the Statement of Basis.

   The Statement of Basis and/or the permit itself should include information necessary to determine whether or not various requirements are applicable. For example: type of turbine (e.g., simple cycle, combined cycle, etc.); whether facility is a peaking plant; commence construction dates of turbines; size/capacity of tanks listed as insignificant units; a concise explanation of Prevention of Significant Deterioration (PSD) applicability. The Fact Sheet states only that:

   This facility is subject PSD as a major source.

   - *Potential to emit for CO is greater than 250 TPY.**

* There may be some confusion regarding this issue. In their Title V Renewal application submitted in June 2002, the facility states: *"The SO2 and Nox plant wide limits will keep this facility PSD minor. Therefore, we will limit the CO plant wide below 249 tons/yer. We may either limit CO from construction permit modifications or from this Title V permit application."*

We recommend that this be revised to include the following significant information:

Since this facility is <u>not</u> one of the 28 listed PSD source categories, the PSD threshold for each criteria pollutant is 250 tpy. The source has an uncontrolled potential to emit (PTE) of greater than 250 tpy for SO_2, NOx, and CO. However, for SO_2 and NOx, the source has obtained construction permits limiting the plant-wide emissions of SO_2 and NOx to 249 tpy. Therefore, the source is PSD major for CO only.

5. All terms and conditions in a Title V permit become enforceable by the permitting authority upon issuance of the permit, with the exception of any provisions that are enforceable by the state only. State-only enforceable provisions must be clearly identified in the permit. No permit provisions should be labeled "*federally enforceable*" or "*federal-only enforceable*."

   To avoid any confusion, we recommend that the footnote at the bottom of page 5, in Section II., Plant-Wide Conditions, under the heading Emission Limits, be revised to delete the last sentence. .

   On page 6, Section II., Plant-Wide Conditions, delete the phrase *"(federally enforceable)*" should be changed to "*Particulate Matter*." The footnote should be revised to delete the phrase "*and is enforceable by the EPA.*"

6. The first sentence under the heading Compliance Plan, on page 6, in Section II, Plant-Wide Conditions, states that "*Unless otherwise noted in Section III of this permit, IPL - Lime Creek Combustion Turbines are in compliance with all applicable requirements. . .*" Since no instances of non-compliance are noted in Section II, or elsewhere, in the permit, this statement should be revised to read "*IPL - Lime Creek Combustion Turbines is in compliance with all applicable requirements at the time of permit issuance, and shall continue to comply with all such requirements.*"

7. Neither Form 1.3, "Insignificant Activities - Potential Emissions." in the renewal application submitted in June 2002, nor the draft renewal permit, includes any of the information necessary to verify that the eight tanks listed qualify meet the definition of "insignificant." (*e.g.*, capacity/size, maximum vapor pressure). What are the capacities of these tanks in gallons? How was the determination made that they meet the definition of "insignificant"?

8. The draft permit states that if the facility operates more than 876 hours in a 12 month period that the periodic monitoring will be re-evaluated. Unless a requirement to report hours of operation per 12 month rolling period is included, IDNR would not have a way of knowing that this limit had been exceeded. If this requirement is to remain in the permit, then an associated reporting requirement must be included to facilitate it.

9. Please provide a copy of "*IDNR Air Quality Policy 3-b-08, Opacity Limits,*" which is listed in the draft renewal permit as the basis for the opacity monitoring. We are unfamiliar with this document and were unable to locate it on the IDNR web page.